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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/780,876

02/19/2004

Yoshio Iimura

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03/31/2009

MCGINN INTELLECTUAL PROPERTY LAW GROUP, PLLC
8321 OLD COURTHOUSE ROAD
SUITE 200
VIENNA, VA 22182-3817

EXAMINER

HAMO, PATRICK

ART UNIT

PAPER NUMBER

3746

MAIL DATE

DELIVERY MODE

03/31/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/780,876	Applicant(s) IIMURA ET AL.	
	Examiner PATRICK HAMO	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-5 and 21-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 and 25 is/are allowed.
- 6) ☒ Claim(s) 3,4 and 21-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 30 January 2009 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 4 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Centers et al., US 2002/0182082 in view of Pfeil et al., US 2003/0132161.

In regard to claim 3, Centers discloses a compressor comprising a reservoir 312, a compressor 102 for generating compressed air supplied to reservoir 312 and a control

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system 104 including inputs from a pressure sensor 106 and capable of determining the time rate of change of pressure in the controlling operation (paragraph 169). In the invention of Centers, the pressure and time rate change of pressure are used to control the compressor by varying the output capacity of the compressor by controlling a plurality of valves associated with the compressor. Centers does not teach that a rotational speed of the motor 214 is decided on the basis of the pressure and rate of change of pressure factors. However, it is obvious to one of ordinary skill in the art that an alternate means of varying output capacity of a pump or compressor is to vary the speed of the motor driving the pump compressor. One such example is the invention of Pfeil, whereby a pump control circuit includes a pressure and temperature sensor that control the power supplied to the motor driving the pump, hence varying the output of the pump (Abstract). Therefore, it would have been obvious to one of ordinary skill in the art to have substituted the pump speed motor control taught by Pfeil for the valve control taught by Centers to achieve the predictable result of varying compressor output in response to sensed conditions. Also, it is well known in the art to use memory such as a computer hard disk to store pertinent data in control systems in order to retrieve the data for operation of the control system. Pfeil is just one such teaching of this principle. In Pfeil, the motor control and property characteristics are sensed and then sent to map file on stored memory for future use (p.2, paragraph [0013]). Therefore, it would have been obvious to one of ordinary skill in the art to have applied the technique of using storable media to store pertinent data as taught by Pfeil to the compressor control system of Centers. With the sensors of Centers provided combined with the

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teachings of Pfeil, the computer of Pfeil constitutes a means for calculating a rate $\Delta P/\Delta T$ of pressure change and time change.

In regard to claim 4, the combination of Centers and Pfeil already teaches memory capable of storing information indicating relations among the tank, $\Delta P/\Delta T$, and the rotational speeds of the motor. This computer and memory combination would further be capable of being searched to select a rotational speed of the motor.

In regard to claims 21-24, the limitations in these claims are such that they are more appropriate for a method claim. Because they are dependent on an apparatus whereby the structural limitations are paramount, an apparatus *capable* of performing the steps recited would read on the claims as the limitations amount to an intended result of the claimed structure. The computer and memory of Pfeil in combination with the sensors and control taught by Centers would be capable of storing integral values of the motor speed, judging a pressure reading compared to a predetermined value, using this information to stop the motor, adjusting the time increments with which the pressure rates are measured, and indicating relations among all the stored information.

Allowable Subject Matter

Claims 5 and 25 are allowed.

Response to Arguments

Applicant's arguments filed 30 January 2009 with respect to claims 3-5 and 21-24 have been fully considered but they are not persuasive.

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Applicant reiterated the claimed limitations that were felt to be omitted by the cited references, and merely made the allegation that this omission should result in allowability of the claims. The references were not discussed beyond the statement that they did not disclose all of the recited limitations. The examiner respectfully disagrees, the reasoning present in the rejection above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PATRICK HAMO whose telephone number is (571)272-3492. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charles G Freay/
Primary Examiner, Art Unit 3746

/Patrick Hamo/
Patent Examiner, AU 3746